

Remarks

Claims 1-31 are pending with claims 25 and 27-31 withdrawn. Claims 1-24 and 26 stand rejected by the Examiner.

Applicant has amended claim 1 to recite "at least one braided electrode interposed in a fixed position between the inner surface and the outer surface." Applicant has also amended claim 26 to recite "a fixed braided electrode means." Support for these amendments are found in the specification as a whole, for example, at paragraph [0065], page 18 as filed. No new matter is added by these amendments.

Since the Examiner has not pointed to any references teaching or suggesting "at least one braided electrode interposed in a fixed position between the inner surface and the outer surface", Applicant submits that all Section 103 (a) rejections based on Bednarek ('500) should be withdrawn.

The Examiner has objected to the drawings as allegedly not showing an "electrode surface that is recessed below and alternatively raised above the level of the outer surface of the catheter shaft" as claimed in claims 15 and 17. Applicant respectfully disagrees and asserts that, for example, Figs. 6 and 8 and Paragraph [0060] in Applicant's specification as originally filed describes the claimed features in sufficient detail as to be readily understood by those of skill in the art.

Similarly, the Examiner has rejected claims 16 and 17 under Section 112, second paragraph for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Examiner appears to find a contradiction between claim 1, which claims an electrode "interposed between the inner surface and the outer surface," and claims 16 and 17. Claims 16 and 17 recite further that the "at least one braided electrode" defines a surface that can be "generally flush with the outer surface of the catheter shaft" (as in claim 16) or "raised above the outer surface of the catheter shaft" (as in claim 17). As argued further below, Applicant respectfully disagrees and submits that, for example, Figs. 6 and 8 and paragraph [0060] on pgs.

15-16 in Applicant's specification as originally filed particularly point out the claimed subject matter in claims 1, 16 and 17.

Claims 1 and 18 have been rejected by the Examiner under Section 103 (a) as being obvious over Sun in view of Swanson. Applicant has argued below that the Examiner has failed to make a prima facie case for obviousness because one of ordinary skill would have no motivation to combine Sun with Swanson.

Objections to the Drawings

The Examiner has objected to the drawings, asserting that "the electrode surface that is recessed below and alternatively raised above the level of the outer surface of the catheter must be shown or the features canceled from the claims 15 and 17. Office action at page 2. Applicant respectfully disagrees and requests clarification as to which features are allegedly missing from the application.

Applicant respectfully asserts that the drawings as provided and described in the original specification are sufficient for one of ordinary skill in the art to understand and appreciate the features from claims 15 and 17.

Paragraph [0060] on pages 15-16 of Applicant's specification as filed recites: "Depending on the thickness of the braided electrode strands 74 and the thickness of the outer surface 80, the outer surface of the braided electrode may be slightly raised, lowered, or flush with the outer surface of the ablation catheter 38." Figure 6 shows the outer surface of the catheter shaft in element 52. A close look at the electrode strand 74 at the far left of the window 82 shows the electrode strand raised just beyond the surface plane of the outer shaft. Figure 8 shows another view where the electrode strand 74 is somewhat thinner and generally flush with the outer surface 38. One of ordinary skill can readily see from looking at Figs. 6 and 8 and reading paragraph [0060] how the thickness of the braided electrode strands 74 and the thickness of the outer surface 80 could be varied in a variety of ways to orient the outer surface of the braided electrode in a slightly raised, lowered, or flush position with the outer surface of the

catheter. Applicant respectfully asserts that this objection should be withdrawn and the drawings accepted as filed.

Rejections based on Section 112, Paragraph 2

The Examiner has rejected claims 16 and 17 under Section 112, second paragraph alleging that "[i]n claim 1, applicant claims that the electrode is interposed between the inner and outer surfaces. In claims 16 and 17, however, applicant claims that the electrode is flush or raised above the outer surface." Office action at page 3.

As similarly argued above, paragraph [0060], Fig. 6 and Fig. 8 of the specification as filed illustrate and recite how the thicknesses of the outer surface 80 and electrode strands 74 can be varied in order to meet all of the limitations in claims 1, 16 and 17. Figures 6 and 8 each show the electrode 74 interposed between the inner and outer surfaces. Figure 6 shows the slightly thicker electrode 74 raised somewhat above the outer surface. Figure 8 shows a slightly thinner electrode 74 that is generally flush with the outer surface. Applicant respectfully asserts that one of skill in the art would have no difficulty understanding the subject matter being claimed from the specification and drawings as filed and request that the rejection be withdrawn.

Rejections under 35 U.S.C. § 103(a) based on Bednarek

Claims 1-11, 13, 15, 19-23 and 26 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Bednarek ('500) in view of Swanson.

Claim 12, 14 and 24 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Bednarek ('500) in view of Swanson and further in view of Swartz.

Claim 1 and 16-18 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over a second embodiment of Bednarek ('500) in view of Swanson.

Regarding claim 1, the Examiner has alleged that Bednarek discloses an ablation catheter comprising: "a catheter shaft defining an inner surface 20 and an outer surface 42 (Fig. 11); at least one coiled electrode 46 interposed between the inner surface and the outer surface (Fig. 11); and the outer tubular surface 42 defining at least one electrode aperture 38 such that a portion of the electrode is exposed (Fig. 11)." Office action at page 4. The Examiner alleges further that Swanson "teaches that a coil-type electrode alternatively can be made using braided wire" and concludes that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a braided electrode in the device of Bednarek in view of the teaching of Swanson" Office action at page 4. Regarding claim 26, the Examiner cites "Fig. 11 and the preceding rejection of claim 1." Office action at page 8.

Applicant has amended claim 1 to recite "at least one braided electrode interposed in a fixed position between the inner surface and the outer surface." Applicant has also amended claim 26 to recite "a fixed braided electrode means." The Examiner has not alleged that Applicant's application teaches or suggests "at least one braided electrode interposed in a fixed position between the inner surface and the outer surface." Applicant respectfully submits that all references based on Bednarek ('500) should be withdrawn.

Rejections under 35 U.S.C. § 103(a) based on Sun and Swanson

Claim 1 and 18 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sun in view of Swanson.

The Examiner has also rejected claims 1 and 18 under Section 103 (a) alleging: "Sun discloses an ablation catheter comprising: a catheter shaft defining an inner surface 22 and an outer surface 172 (Fig. 9c); at least one electrode 46 interposed between the inner surface and the outer surface (pg. 33, ln. 11-21 and Fig. 9c); and the outer tubular surface defining at least one electrode aperture such that a portion of the electrode is exposed (Fig. 9c). The claim differs from Sun in calling for the electrode to

be a braided electrode. Swanson, however, teaches using a braided electrode (col. 7, ln. 55-61)." Office action at page 11. Applicant respectfully disagrees.

In order to make out a *prima facie* case of obviousness, "the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed." In re Rouffet, 149 F.3d 1350 (Fed. Cir. 1998). Additionally, "[t]he initial burden is on the Examiner to provide some suggestion of the desirability of doing what the inventor has done." In re San Su Lee, 277 F.3d 1338 (Fed. Cir. 2002). "Teachings of references can be combined *only* if there is some suggestion or incentive to do so." ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577 (Fed. Cir. 1984). Therefore, the evidence of record must identify an objective source for the motivation to combine Sun with Swanson in the manner proposed. In re Lee, 277 F.3d at 1343.

The Examiner alleges that Swanson "teaches using a braided electrode (col. 7, ln. 55-61)." Office action at 11. However, the cited text from Swanson actually recites that the "*multiple layer coil 44(d) structure* can also be formed using a braided wire material (not shown)." Col. 7, ln. 59-61. The Examiner appears to have acknowledged this distinction in the earlier rejection that combined Swanson with Bendarek ('505): "Swanson, however, teaches that a *coil-type electrode* alternatively can be made using a braided wire. (col. 7, ln. 55-61)." Office action at Page 4.

A closer review of Sun reveals that it does not teach or suggest either a "coil-type electrode" or a "multiple layer coil structure." In fact, Sun only describes "half-ring electrodes 46" or "full-ring electrodes 46." Sun at pg. 32, ln. 11-15. Further, Sun contains no teaching or suggestion of a lumen, a conductive medium or any other motivation for substituting a coil or braid for its solid, ring electrodes. The Examiner has not explained why one of ordinary skill in the art would choose to substitute the ring electrodes of Sun with either a coil electrode or a braided electrode.

The Examiner has also alleged that Sun teaches an "outer tubular surface defining at least one electrode aperture such that a portion of the electrode is exposed (Fig. 9c)." Office action at page 11. However, a closer look at the alleged "outer tubular surface" in Sun illustrates that it is not "tubular" and does not teach or suggest any sort of "aperture" at all. One of ordinary skill in the art would understand the term "tubular" to relate to "tubes" which are generally understood to be cylinders. Accordingly, an "aperture" in a tube suggests a hole or port with defined, circumscribed sides. The alleged "tubular surface" of Sun is, at best, a half-cylinder, which does not comport with any generally understood definitions of a tube. The Examiner has further failed to explain how the alleged "aperture" is defined, since the alleged "tube" of Sun is not a closed cylinder.

Applicant respectfully asserts that the Examiner has failed to articulate any motivation for substituting the ring electrodes of Sun with coiled electrodes of any kind. Therefore, the motivation to combine the braided electrode of Swanson has not been established. In addition, because Sun does not teach or suggest either an "outer tubular surface" or an "electrode aperture," Applicant respectfully submits that the rejections based on obviousness should be withdrawn.

Applicant submits that the application is in condition for allowance. Timely notification of allowability is requested.


Application No: 10/645,892
Response to Office action dated June 6, 2006
Reply and Amendment of November 6, 2006

Applicant requests a two-month extension of time for response to this Office action and has submitted the requisite fee. No additional fees, requests for extension of time, other petitions, additional claim fees, or any other fees are believed to be necessary to enter and consider this paper. If, however, any extensions of time are required or any fees are due in order to enter or consider this paper or enter or consider any paper accompanying this paper, including fees for net addition of claims, Applicant hereby requests any extensions or petitions necessary and the Commissioner is hereby authorized to charge our Deposit Account No. 50-1129 for any fees. If there is any variance between the fee submitted and any fee required, or if the payment or fee payment information has been misplaced or is somehow insufficient to provide payment, the Commissioner is hereby authorized to charge or credit Deposit Account No. 50-1129.

Respectfully submitted,

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